

Historic, Archive Document

Do not assume content reflects current scientific knowledge, policies, or practices.

CURRENT LITERATURE IN AGRICULTURAL ENGINEERING

BUREAU OF AGRICULTURAL CHEMISTRY AND ENGINEERING
UNITED STATES DEPARTMENT OF AGRICULTURE

Vol. 10, No. 3.

WASHINGTON, D.C.

October, 1940

Accidents

Watch out for accidents! By Lewis T. Nordyke. Farm and Ranch. v. 59, no. 8. August 1940. p. 6, 19. Agriculture has higher accident death rate than any other industry, between 4,000 and 5,000 farmers being killed in accidents, exclusive of traffic mishaps, in the United States each year. This number represents about one fourth of accidental deaths in all industries, including hazardous manufacturing, construction, fire-fighting and police work. Although fatal accidents can't be eliminated from farm work, they can be decreased and death rate reduced materially if simple safety measures are practiced.

Agricultural Engineering

Why and how agricultural research involves agricultural engineers. By R. W. Trullinger. Agricultural engineering. v. 21, No. 10. October 1940. p. 381-384, 397. Most effective participation in agricultural research by engineers is that which begins at planning stage and continues in cooperation with other essential scientific approaches throughout life of research project, in form of either advice or action or both.

Agriculture

Achieving a balanced agriculture: How the National farm program meets the changing problem. Washington, D.C. U. S. Department of agriculture, 1940. 74 p.

Extra-normal granary. By Harry R. O'Brien. Country gentlemen. v. 110, no. 3. p. 7-8, 82, 83, 84. March, 1940.

How farm population has increased. Farm implement news. v. 61, no. 17. p. 22. August 22, 1940. Farm population on Jan. 1, 1940, was 32,245,000, largest in 24 years, according to estimates of Bureau of Agricultural Economics.

New agricultural empire opened for development in the South. By John A. Fox, Manufacturers record. v. 109, no. 7. p. 34-37, 52. July, 1940.

Our changing farm map. By Harry R. O'Brien. Country gentleman. v. 110, no. 6. June 1940. p. 7-8, 38-40.

Agriculture. (Cont'd.)

Report of the Kansas state board of agriculture, October 1940. Containing report of the Division of water resources for period from January 1, 1936 to December 31, 1939 and Stream-flow data for period from October 1, 1935 to September 30, 1939. Topeka, Kansas, 1940. 381 p.

Twenty-five years of farm progress. Address by Secretary of Agriculture Claude R. Wickard at the twenty-fifth anniversary meeting of the Missouri Farm Bureau Federation at Columbia, Missouri ... October 15, 1940. Washington, D. C. Department of Agriculture, 1940. 11p. mimeographed.

Work and expenditures of the agricultural experiment stations in 1939. By Frederick V. Rand. Experiment station record. v. 83, no.2. August, 1940. p. 145-149.

Working together in agriculture. Address by Secretary of agriculture Claude R. Wickard, before the Annual meeting of the North Dakota Farmers' Union, at Jamestown, North Dakota... October 10, 1940. Washington, D. C., Department of agriculture, 1940. 10 p. mimeographed.

Wachtler dairy barn. Markets. v.3, no. 17. p. 5. June 15, 1939.

Report of a chick brooder study. By Lee C. Prickett. Agricultural engineering. v. 21, no. 10. October 1940. p. 385-386. Research conducted by Rural electrification administration, U. S. Department of agriculture.

Building blunders to be avoided. Wisconsin agriculturist and farmer. v. 67, no. 13. June 29, 1940. p. 18. no. 1, Trouble from warped lumber.

Old Persian brickwork. By Donald N. Wilber. Pencil points. v. 21, no. 8. p.492-498. August, 1940. illustrations.

Study of lumber and plywood joints with metal split-ring connectors. By E. G. Stern. State College, Pa., 1940. 58 p. Pennsylvania. Engineering experiment station. Bulletin no.53.

Corrosion

Notes on corrosion control in refrigeration condensers.

By K. M. Holaday and Dr. A. Von Gontard. Ice and refrigeration. v.98, no. 4. p.286-296. April, 1940. About year ago rather extensive trials were begun to test various methods of controlling corrosion in circulating water systems of Anheuser-Busch, Inc. refrigeration condensers.

Corrosion. (Cont'd.)

Considerable mass of information has been accumulated, and adequate means of control have been determined. However, much experimental work remains to be done to find out what modifications in procedure may give most economical results. These notes are therefore to be considered only as summary of progress to date, and not as complete report or full interpretation of problem and its solution.

Recommended practice and standard specifications for concrete and reinforced concrete: Discussion. By L. J. Mensch. American Society of Civil engineers. Proceedings. v. 66, no. 7. September 1940. p.1351-1367.

Sawdust concrete facts brought to readers. Wisconsin agriculturist and farmer. v. 67, no. 14. July 13, 1940. p. 23.

Conservation of Resources

Concerning soil conservation. What can farm equipment dealers do about it? By Ellen Newman. Farm implement news. V. 61, no. 17. p.18-19. August 22, 1940.

Conserving farm lands; planning for soil-erosion control, water conservation and efficient land use. By Tom Dale and W. A. Ross. Washington, D. C., 1939. 104 p. U. S. Department of the Interior. Office of education. Vocational division. Bulletin no. 201.

Developing enlightened public opinion in conservation. By Hugh H. Bennett. Washington, D. C., Soil Conservation Service, 1940. 12p. Address before the assembly on use of human and natural resources in education, 78th annual meeting. National education association, Milwaukee, Wisc., July 2, 1940.

Range improvement through conservation of flood waters; a report of progress. By O. W. Monson and J. R. Quesenberry. Bozeman, Mont. 1940. 20 p. Montana. Agricultural experiment station. Bulletin no.380.

Soil-conserving practices save farm labor, power, and equipment use. By Richard H. Flynn. Soil conservation. v.6, no. 2. p.49-51. August 1940.

Conservation of Resources. (Cont'd.)

Water and soil conservation experiments at Spur, Texas.
By R.E. Dickson and others. College Station, Texas.
1940. 67 p. Texas. Agricultural experiment
station. Bulletin no.587.

Water conservation in Hopi agriculture. By Guy R. Stewart
and Ernest A. Nickolson. Soil conservation. v.6, no. 2.
p.45-48, 51. August 1940. Hopi agriculture constitutes
interesting combination of traditional ceremonial
observance and sound conservation measures well adapted
to semidesert conditions. Floodwater irrigation is basis
of crop production. Source of this floodwater is partly
run-off from higher land of Black Mesa and partly local
run-off which supplies small fields at base of each mesa.
Permanent springs supply water for series of terrace
gardens which produce chile peppers, onions, early corn
and green vegetables. Simple brush windbreaks have
proved important aid to protection of crops of beans,
melons and squash. Measures now employed in the Hopi
country are suggestive of methods which probably
prevailed among the Pueblo villages in the primitive
agriculture of the Southwest.

Cotton

The cotton revolution. By Harris P. Smith. Country gentleman.
v. 110, no. 4. p.14,35,36, April, 1940.

Cotton Machinery

Is machine cotton picking almost here? Arizona farmer.
v.19, no.14. July 6, 1940. p.1,22.

Crops (Drying)

Cost of curing white burley tobacco with artificial heat.
By Geo. B. Byers. Lexington, Kentucky. 1940.
335-351p. Kentucky. Agricultural experiment
station. Bulletin No. 406.

Economics of flue-cured tobacco farming. By M. L. Gibson, jr.
Blacksburg, Virginia, 1940. 135p. Virginia.
Agricultural experiment station. Technical bulletin no.66.

Dams

How Friant Dam is being built. Engineering news-record.
v.125, no.5. p.144-148. August 1, 1940.

Dams. (Cont'd.)

Masonry dams: A symposium. Discussion. By William P. Creager and others. American society of civil engineers. Proceedings. v. 66, no.7. September 1940. p.1379-1409.

Modern construction methods on earth dams-Part I. Relative economy of hydraulic and rolled fill; Pickwick Landing Dam illustrates use of two types in conjunction. By O. N. Floyd. Civil engineering. v.10,no.8. August, 1940. p.487-490.

Modern construction methods on earth dams-Part II. Sardis and Wappapello Dams exemplify new developments in hydraulic and rolled-fill work. By O.N. Floyd. Civil engineering. v. 10, no. 9. September, 1940. p.586-589.

Drainage

Natural water loss in selected drainage basins. By G. R. Williams and others. Washington, D.C., U.S. Government printing office. 1940. 62 p. U.S. Geological survey. Water-supply paper no. 846.

Rehabilitation of drainage systems. By Clark E. Jacoby. Agricultural engineering. v.21, no. 10. October 1940. p.389-390,392. Surveys for rehabilitation of drainage systems should cover investigations of all causes that have contributed to inadequacy of system under consideration. In General, these causes may be attributed to two sources: 9 (1) errors or omissions in original design and construction, and (2) lack of proper maintenance. General requirements: 1. Determine drainage area and locate all water courses affecting that area. 2.Determine level datum and establish bench marks. 3.Borings should be taken at sufficient depths to indicate character and types of soil. 4.All physical characteristics of drainage area should be located, and such elevations as are required for design, specifications, estimates, and construction should be determined. 5. Information should be secured regarding all high-water marks. 6.Determine soil types and classifications. 7.Determine land use, particularly along line of proposed work. 8.Determine widths and field location of legal rights of way along line of improvements. 9.Lest and locate ownership of lands, particularly along line of work where additional rights of way will be required. 10.Obtain information in regard to dates when improvements were originally constructed and history of reconstruction and maintenance work that has been performed to date.

Drainage (Cont'd)

Results of a 3-year vertical drainage experiment. By L. F. Livingston. Agricultural news letter (DuPont) v.8, no.4. by Du Pont Company indicate procedure which should be followed in draining wet spots in cultivated fields by subsoil blasting.

Electricity on the Farm

Electrical progress in the last century. By Charles E. Wilson, Southern planter. v.101, no. 8. p. 4, 10. August 1940.

Electricity and agriculture. By G. A. Rietz. Southern planter. v.101, no. 8. p.6, 10. August 1940.

Rural electrification. By Harry Slattery. Southern planter. v.101, no. 8. p.5, 11. August 1940.

Serving American farms. What the R.E.A. has accomplished. By Roderick A. Wood. Electrical review. v.127, no. 3271. August 2, 1940. p.85-86.

Erosion

Soil defense in the Pacific southwest. By Glenn K. Rule and Ralph W. Netterstrom. Washington, D. C., 1940. 55p. U. S. Department of agriculture. Farmers' bulletin no. 1848.

Farm Buildings

Fit the buildings to the farm. By Lauren Soth. Successful farming. v.38, no. 9. September, 1940. p.12, 24. Balance between the overbuilt and underbuilt farmstead goes far toward making profit margin in farm operations.

How much should farm buildings cost? By H. B. White. Agricultural engineering. v.21, no. 10. October 1940. p.387-388. Gives costs of specific buildings.

Remodeled dairy unit. By S. A. Witzen. Successful farming. v.38, no. 8. August 1940. p.11,29.

Farm Machinery and Equipment

Combine wins long race. Wisconsin agriculturist and farmer. v. 67, no.13. June 29, 1940. p.3.,16.

Farm Machinery and Equipment(Cont'd.)

Cost of using farm machinery. By A. J. Schwantes. Implement & tractor. v.55, no. 17. p.13. August 17, 1940. Table shows average values of various tractors for some of most commonly used farm machines. These are suggested, not as exact values for all cases, but merely as guide in arriving at true value for any particular machine.

Economics of farm machinery. By John Lee Coulter. Better farm equipment and methods. v.12, no. 11/12. July-August 1940. p.4-5, 22-26. How farm equipment industry has eliminated farm drudgery - Raised standard of farm life - Reduced costs despite constant improvements - Fallacious criticisms answered.

Economics of farm machinery. By John Lee Coulter. Northwest farm equipment journal. v.54, no. 8. p.30-34. August, 1940. Address to American Society of Agricultural Engineers.

Economics of farm machinery. By John Lee Coulter. Farm implement news. v. 61, no.16. p.20-21,44,46. August 8, 1940.

Economics of farm machinery. By John Lee Coulter. Utah farmer. v.59, no.1. July 15, 1940. p.1,6,8,

Farm machinery---curse or blessing? By John Lee Coulter. Implement record. v.37, no. 8. p8-10. August, 1940. Condensation of address before American Society of Agricultural Engineers entitled "Economics of Farm Machinery."

Harvesting machinery. By S.J.Wright. Journal of the Ministry of agriculture. v.47, no.1. June 1940. p.68-72. Combine harvesting; binders; stooking and carrying; field threshing.

New farm machines. By Sumner Higgins. Farm journal. v.64, no.8. September 1940. p.20.

Potato digger adjustment in relation to tuber bruising. By E. V. Hardenburg and C. N. Turner. American potato journal. v. 17, no.8. p.191-197. August, 1940. Seven factors involving types of potato diggers, their adjustment and operation as related to tuber bruising were studied on 32 New York farms over a three-year period. On basis of reduction in bruising obtained in these studies, speed of apron, type of digger, and depth of digger point may be considered most important under prevailing conditions. However, it is obvious that attention to any one or a combination of several of these factors may result profitably to potato grower according to his specific conditions.

Farm Machinery and Equipment (Cont'd.)

Potato planter adapted for seed-spotting forest trees.

By H. D. Petheram. Soil conservation. v.6.,no. 3.
September 1940. p.76-77.

Progress of combine harvester. What the new small models
can do. By S. J. Wright. Country life (English)
v.87, no.2267. p.20. June 29, 1940.

Role of nickel in the production of farm tools. By H. L.
Geiger. Agricultural engineering. v. 21, no. 10.
October 1940. p.399-405.

A service program for farm equipment., By R. J. Kretz.
Northwest farm equipment journal. v.54,no.8. p.25-28.
August, 1940. Address delivered to the American Society
of Agricultural Engineers.

Technology on the farm. A special report by an interbureau
committee and the Bureau of agricultural economics of
the United States Department of Agriculture. Washington,
D.C., United States Government printing office, 1940. 224p.

Farmhouses

Farmhouse research in Wisconsin. By J. Robert Dodge.
Extension service review. v.11, no.8. p.103.
August, 1940. United States Bureau of Agricultural
Chemistry and Engineering and Department of Agricultural
Engineering of University of Wisconsin have been cooper-
ating since 1935 in research project to determine, first,
actual conditions existing in farmhouses; second, what
requirements for good farm housing are; third, what changes
are needed to meet these requirements; and, fourth, most
satisfactory methods of making these changes so that
farmers will get most for their dollars.

Feed Grinders and Grinding

Installation of motor-driven feed grinders. By Truman E.
Hinton. Lafayette, Indiana, 1940. 4p. Purdue
university. Agricultural experiment station. Circular no.
173.

Fertilizer Placement

Proceedings of the fifteenth annual meeting of the National
joint committee on fertilizer application held at New Orleans
La., November 21, 1939. Washington, D. C.; National
Fertilizer Association, 1940. 153p. processed.

Fire Protection

Fires on farms. By Harry E. Roethe. Washington, D. C., 1940. 7p. U. S. Department of agriculture. Leaflet No. 44.

Floods and Flood Control

Flood-protection data; progress report of the committee:
Discussion. By O. J. Todd. American society of civil engineers. Proceedings. v.66, no. 7. September 1940. p.1347-1348.

Indirect flood damages: A list of references. Compiled by Louise O. Bercaw. Washington, D. C., 1940. 16p. processed. U. S. Bureau of Agricultural Economics. Economic library list no. 13.

Maximum probable floods on Pennsylvania streams. By Charles F. Ruff. American society of civil engineers. Proceedings. v.66, no. 7. September, 1940. p.1239-1276. Method, with supporting data, for estimating maximum probable flood from drainage areas of 100 to 6,000 sq. miles is presented. Maximum storm is derived for various seasons and regions of state from study of records of past storms in eastern United States. Flood hydrographs caused by 100 c/o runoff from this storm on various sizes of standard watershed are estimated, and means are developed for correcting these hydrographs of maximum flood peaks derived from actual watershed. Comparison of maximum flood peaks derived from storm data with largest recorded past floods shows general agreement. Although no frequency is assigned to flood developed, basis on which it is derived indicates that such floods must be very rare on any one watershed, and are unlikely to be exceeded. Although made primarily for Pennsylvania streams, several features of method are generally applicable. Data used cover large part of northeastern United States so that, with modifications required by locality, they should prove useful in other eastern states.

Transient flood peaks: Discussion. By Franklin Thomas. American society of civil engineers. Proceedings. v. 66, no. 7. September, 1940. p.1337-1338.

Raising caves on wire floors. By H. H. Tucker. Farmers digest v.4, no. 2. June 1940. p.22-26.

Fuels

Is charcoal gas the solution of the wheat farmer's problem.

Agricultural gazette of New South Wales. v.51, no. 5.

p.237-241. May 1, 1940. Subject of fuel costs, in view of ever-increasing tendency to supplant horses by mechanised farm units, is one of very great moment not only to individual farmers but also to State; in fact, in present circumstances, to Empire. High fuel costs, can be contributing factor to inefficient farming and consequently low yields. Furthermore, high fuel costs may result in reduction of area under crop. Not only does farmer stand to lose, but reduction in volume of production will adversely affect volume of exports, and that, conceivably could be determining factor in Empire's war effort. Present prices for wheat are so low that saving of even few pence per bushel on production costs would make a great difference to farmer, and indirectly to State. Substitution of charcoal gas for fuel oil offers saving, according to article, of 3 1/12d, per bushel on a 12-bushel crop.

Hay Handling

Stack building. By George Wood. Journal of the Ministry of agriculture. v.47, no.1. June 1940. p.72-77.

Heat Transmission

Heat transfer by conduction and forced convection. By G.A. Hawkins. Industrial power. v.39, no. 2., August, 1940. p.64-67, 82,84,86--89.

Heating

Effect of soot on the rating of an oil-fired heating boiler.

by Richard S. Dill and Paul R. Achenbach. Washington, D.C. United States Government printing office. 1940. 4p. National Bureau of Standards. Building materials and structures. Report no. B.M.S. 54.

Hotbeds and Cold Frames

Heating hotbeds with radiant energy from incandescent lamps.

By Robert L. Zahour. Illuminating engineering. v.35, no.7. p.591-604. July, 1940. Study was made in effort to develop nature's method of fulfilling hotbed heating requirements, that is, radiant heat distributed on to soil from above, rather than inverse scheme heretofore described. To determine success or failure of overhead radiant heating, test was made employing incandescent lamps thermostatically controlled,

Hotbeds and Cold Frames. (Cont'd.)

suspended from beneath the sash over the soil. Results indicated that hotbed temperature requirements were satisfactorily met in spite of severe weather conditions, while plant development was highly gratifying and operating costs proved reasonably low.

Houses

Builders of 1-family houses in 72 cities. Washington, D.C. 1940. 8p. U. S. Bureau of Labor Statistics, Series No. R.1151.

Houses built to last 60 years. Engineering news-record. v.125, no. 5. p.150-153. August 1, 1940.

Houses, Remodeling

Modernizing farmhouses. By Wallace Ashby and Walter H. Nash. Washington, D. C., 1940. U. S. Department of agriculture. Farmers' bulletin no. 1749.

Hydrology

Hydrologic studies. Compilation of rainfall and run-off from the watersheds of the Texas agricultural experiment station, substation no. 7, Spur, Texas, 1928-38. U. S. Department of Agriculture, Soil conservation service, 1940. n.p.

Insulation

Effect of ceiling insulation upon summer comfort. By Thomas D. Phillips. Washington, D. C., United States Government printing office. 1940. 10p. National Bureau of Standards. Building Materials and Structures. Report B.M.S.52.

Insulation as a factor in controlling dehydration. By Paul Mandeville. Ice and refrigeration. v.98, no. 4, p.253-254. April, 1940.

Stormproofing. By S. A. Witzel. Successful farming. v.38, no. 9. September, 1940. pp.34-36.

Irrigation

Efficient cotton and alfalfa irrigation. By D. J. Whitney. California cultivator. v.87, no. 16. August 10, 1940. p.433, 445.

Irrigation interval control as an aid in lowering production costs. By J. A. Swezey and H. A. Wadsworth. Hawaiian planters' record. v.44, no. 1. First quarter 1940. p.49-68. tables, charts.

Irrigation (Cont'd.)

Irrigation of small grain. By W. W. McLaughlin. Washington, D.C., 1940. 14p. U. S. Department of agriculture, Farmers' bulletin no. 1556.

Irrigation progress in Iraq. Indian engineering. v.107, no. 5. May, 1940. p.122-123.

Oregon's half-wet farming. By Frank J. Taylor. Country gentleman. v.110, no.4. p.15,38,39. April, 1940.

Permissible composition and concentration of irrigation water: Discussion. By Carl S. Scofield and others. American society of civil engineers. Proceedings. v.66, no.7. September, 1940. p.1368-1372.

Some principles of lemon tree irrigation: Report of discussion. By J. R. Furr. California citrograph. v.25, no.9. p.278,292. July, 1940.

Use soil auger, tube or shovel; irrigation efficiency and savings depend on proper control of water. California citrograph. v.25, no.9. p.290-291. July, 1940. Savings of up to 20% in amount of water used in irrigation of citrus trees could be realized by many growers if they were more diligent in the manner of application and exercised more care in its use. Such savings could be made if more thought and study were given to water distribution, when to irrigate, how often to irrigate, and how deep water should be allowed to penetrate.

Use soil auger, tube or shovel; irrigation efficiency and savings depend on proper control of water. California citrograph. v.25, no.9. p.290-291. Savings of up to 20% in amount of water used in irrigation of citrus trees could be realized by many growers if they were more diligent in the manner of application and exercised more care in its use.

Water conservation in an irrigation system. By Eugene C. Buie. Soil conservation. v.6, no.3. September, 1940. p.74-75.

Land Grant College

Land grant college movement. By Frederick B. Mumford. Columbia, Mo., 1940. 140p. Missouri. Agricultural experiment station. Bulletin no. 419.

Lighting

... Architectural lighting elements. Magazine of light, v.9, no.5. August 15, 1940. p.24-29. Sketches showing varieties of fownlighting. Sketches showing indirect lighting. Sketches showing built-in features. Fluorescent installations.

Fixtures. Magazine of light. v.9, no.6. August 15, 1940. p.12,17. General discussion and description of type.

Lubrication

Axile and transmission lubrication. By William S. James. S.A.E. journal. v.47, no.2. p.312-324. August, 1940. Discussion (p.323-324). Requirements of all-purpose hypoid lubricant. By C. M. Larson, Rear-axle deflection tests on new gleason machine. By Ernest Wooler.

Malaria Control

New developments in underground drainage for malaria control. By Thomas A. Randle. American journal of public health. v.30, no.7. July 1940. p.736-742. Underground drainage is one of most effective methods of permanent drainage for malaria control, as it requires no maintenance when properly constructed, and it is not expensive to install. In general, deep, narrow trench is constructed just above toe of slope of hill, and this trench usually follows contour. Depth of trench will be determined by elevation of seepage stratum and by elevation of outlet ditch and, where possible, should be at least 3 feet deep. This type of drainage must be executed by engineer familiar with this work, as conventional design for land drainage will not be effective.

Milk Houses

Cool, sanitary milk houses. Concrete is suggested for farm milk house. Markets. v.3, no. 21. p.5,6,7. July 13, 1939.

Miscellaneous

Materials needed for defense: part I. Manufacturers record. v.109, no.8. August, 1940. p.28-29,60.

Need for leadership. By Lamot Du Pont. The Du Pont magazine. v.34, no. 9. September, 1940. p.1-3.

Personnel administration and personnel training. A selected list of references. Compiled by Mildred Benton and H.L. Buckardt. Washington, D. C., 1940. 59 p. mimeographed. U. S. Soil conservation service. Bibliography No. 2.

Motors

Don't overload your motor. By F. D. Yung. Nebraska farmer.
v.82, no.16. p.19. August 10, 1940.

Fractional h.p. motors. Latest B.T.H. developments. Textile
weekly. v.25, no.642. June 21, 1940. p.739.

Most from the motor. By Leonard Westrate. Successful farming.
v.38, no.8. August, 1940. p.15,34. Portable, punchy,
clean and economical is modern electric motor. To get
maximum performance from your unit is easy, as this practical
dirt-farm article suggests.

Pest Control

The fly-a farm problem. By W. A. Pohlman. Farmers digest.
v.4, no. 2. June 1940. p.18-22. Discussion divided
into (1) prophylactic treatment, and (2) mechanical control.

Will lights control moths? By Campbell Davis. Electricity on
the farm. v.13, no.8. August, 1940. p.5-6. New light
trap developed in the orchards of the Northwest. Summary
of results with light traps over the United States.

Pipes and Piping

New pipe formula. By Leland S. Rhodes. Engineering news-record.
v.125, no.7. p.213. August 15, 1940.

Plows and Plowing

Depth of plowing and crop yields. By A.N. Hume. Brookings,
S.D. 1940. 15p. South Dakota. Agricultural
experiment station. Bulletin no. 344.

Poultry Houses and Equipment

Portable home for chicks. Markets. v.3, no. 2. p.5, 8.
March 2, 1939.

Portable sunlight brooder house boon to chick business. Markets.
v.3, no.3. p.5,6. March 9, 1939.

Pressure Measurements

Earth pressure on wall of varying height. By Charles E. Sharp.
Jr. Engineering news-record. v.125, no. 5. p.165.
August 1, 1940.

Reclamation

Pecos River joint investigation. Comprehensive governmental survey and analysis of the basin's water resources and problems now under way. By Harlowe M. Stafford. Civil engineering. v.10, no. 8. August, 1940. p.516-519.

Work, here described, includes studies of runoff, consumptive use of water, control of floods, erosion, silting, and salinity.

Ten years of integral land-reclamation under the Mussolini act. By Guiseppe Tassinari. Faenza, Italy, Fratelli Lega, 1939. 165p.

Refrigeration

Some profitable applications of farm refrigeration and cooling. By Geo. W. Kable. Electricity on the farm. v.13, no. 7. July, 1940. p.5-8. Summary of the many uses for mechanical refrigeration and cooling on the farm today. Fast moving development for farm profits.

Refrigerator Lockers

Below zero. Consumers' guide. v.6, no.18. p.6-8. July, 1940. Explanation for sudden spurt in growth of storage lockers is threefold. (1) Rural electrification has been vastly extended: 8 percent of the Nation's farms had power from central stations in 1929; 22 percent were getting it in 1939. Cold storage lockers depend on availability of electric power supply, (2) Cold storage equipment has been developed with automatic controls which make it easy to run and economically feasible for small plants. (3) Farmers who want better meat for money they have to spend are hearing about locker plants, and refrigerating equipment manufacturers are seeing to it that they do.

Evolution of the frozen food locker. By James Harvey and Earl Mohr. Locker patron. v.1, no. 12. July, 1940. p.8-10, 16-17.

Farm cold storage plants. Electricity on the farm. v.13, no.8. August 1940. p.9. Illustrations.

How many plants ??? By Wayne H. Carver. Locker patron. v.2, no.1. August 1940. p.5-7, 22. Gives figures of number of frozen food locker plants in operation by state.

Trouble shooting the lockers. By K.F. Warner. Country gentleman. v.110, no. 6. June 1940. p.9, 34.

Refrigerator Lockers (Cont'd)

Washington farmers build farm freezing units. By R. N. Miller.
Rural electrification news. v.5, no. 12. August, 1940.
p.6-7.

Research

Agricultural research in New Hampshire. Annual report of the
Director of New Hampshire agricultural experiment station
for the year 1939. Durham, N.H., 1940. 46p.
New Hampshire. Agricultural experiment station. Bulletin
no. 319.

Nation's investment in agricultural and industrial research.
By F. W. Parker. Agricultural news letter (Du Pont)
v.8, no. 4. July-August, 1940. p.53-56. graphs.

Rubber

Rubber - a strategic raw material. By P. W. Barker.
Domestic commerce weekly. v.26, no. 7. p.123-127.
September 5, 1940.

Silt

Designs for suspended-load samplers based upon an experimental
investigation of the disturbances caused by the instru-
ments and analysis of sediment-laden flow. By J. Pat
O'Neill. Washington, D. C., Soil Conservation Service,
1940. 33p. mimeographed.

Effects of rifling on four-inch pipe transporting solids:
Discussion. By G. W. Howard. American society of
civil engineers. Proceedings. v.66, no. 7. September,
1940. p.1324-1326.

Spillways

Model studies of overflow spillway sections. Variation in dis-
charge coefficient with change in upstream and downstream
face angles, and with submergence, investigated.
By A. S. Offitzeroff. Civil engineering. v.10, no.8.
August, 1940. p. 523-526. tables, graphs.

Sprays and Spraying Equipment

Wear in sprayer nozzle disks. By C. N. Turner. Agricultural
engineering. v.21, no. 10. October, 1940.
p.393-394, 405.

Storage of Farm Produce

Management of potato storage. By M.G. Cropsey. Fargo, N.D., 1940. 8p. North Dakota. Agricultural college. Extension service. Circular no. 170.

Potato storage structures. In Agricultural research in New Hampshire. Annual report of the Director of New Hampshire agricultural experiment station. for the year 1939. Durham, N.H., 1940. p.34. New Hampshire. Agricultural experiment station, Bulletin no. 3. 319.

Swine Houses and Equipment

Hog-lot equipment. By E. Z. Russell and S. S. Buckley. Washington, D. C, 1940. 22p. U. S. Department of agriculture. Farmers' bulletin no. 1490.

Ventilating the hog house. Markets. v.3, no.9. p.5. April 20, 1939.

Tires

Committee studies simplification of farm tire specifications. Implement record. v.37,no.8. p.13. August, 1940.

Field studies with dual tires. By C.W. Smith. Farm implement news. v.61, no.15. p.26. July 25, 1940. From an address delivered at fall meeting of the ASAE. Paper presents some results of work done to compare dual tractor tires with single tires while using general purpose tractor under three following conditions: (a) on lister ridges, (b) on wet stubble ground, (c) on plowed ground.

10,000,000 pounds of cotton go back to the farm on rubber wheels. By Firestone news bureau. Acco press. v.18,no.8. p.10, 11, 12. August, 1940.

Tractors

Care of farm tractors. By R. U. Blasingame. Pennsylvania farmer. v.123, no.4. p. 84. August 24, 1940.

Ferguson-Ford unit tractor. Engineering. v.149,no.3882. p.570. June 7, 1940.

Tractors (Cont'd.)

Lightweight tractors using gasoline grow in favor with farmers. National petroleum news. v.32, no.31. p.25-26, 28, 30, 32. July 31, 1940. Introduction of light weight, automotive type tractor, with same kind of engine farmer has in his passenger car, has brought about nearly 50 o/o increase in total number of tractors in use on U.S. farms over last 5 years. These new high compression engine tractors are changing nature of oil companies' farm market, for they use same fuel and lubricants farmer uses in his passenger cars and trucks. Serving farm trade is thus being simplified for oil company and its rural customers. There are said to be about 1,800,000 tractors on our farms today. Year ago, total number was 1,577,000. About third of those in use now are of high-compression type, although they have been on market only from 4 to 5 years.

Nebraska's tractor tests. By Carlton L. Zink. Farmers digest. v.4, no.2. June, 1940. p.15-18.

Tractor repair and maintenance. pt.7. By R. I. Shawl. Farm implement news. v.61, no. 14. p.19-20, 22. July 11, 1940. Republished from Circular 499 by permission of the University of Illinois.

Tractor repair and maintenance. pt. 8. By R.I. Shawl. Farm implement news. v.61, no. 16. p.23, 39. August 8, 1940. Republished from Circular 499 by permission of the University of Illinois.

Tractor repairs. By R. O. Shawl. Wisconsin agriculturist and farmer. v.67, no. 14. July 13, 1940. p.13. Part 9.

Tractor repairs. By R.I. Shawl. Wisconsin agriculturist and farmer. v.67, no. 17. August 24, 1940. p.18. part 11.

Trucks

Transportation of farm products in central Indiana by commercial truckers. By C.M. Hardin and T. K. Cowden. Lafayette, Indiana, 1940. 34p. Purdue university. Agricultural experiment station. Bulletin no. 446.

Walls

Concrete walls eliminate condensation in dairy buildings.
How insulation in walls is applied in buildings of cold storage type. Concrete. v.48,no.8. p.16,22.
August,1940.

Water, Underground

Groundwater supply of the Eloy district in Pinal county.
Arizona. By G.E.P. Smith. Tucson, Arizona. 1940.
42p. Arizona. Agricultural experiment station.
Technical bulletin no. 87.

Local overdevelopment of ground-water supplies, with special reference to conditions at Grand Island, Nebraska.
By Leland K. Wenzel. Washington, D. C., Government printing office, 1940. 28lp. U.S. Geological survey.
Water-supply paper no.836-E.

Water Heater

Experiments with electric water heaters for dairy farms.
By J.M. Fore and T.E. Hienton. Lafayette, Indiana, 1939.
12p. Purdue university. Agricultural experiment station. Bulletin no. 447.

Water Supply

Report of Sacramento-San Joaquin water supervision for year 1939.
Sacramento, Cal., 1940. 193p. processed. California.
Department of Public Works, Division of water resources.

Stock-water development: Wells, springs, and ponds. By C.L.
Hamilton and Hans G. Jepson. D.C., 1940. 70p. U.S.Dept. of agriculture. Farmers' bulletin no. 1859.

Water supply on upper Salt river, Arizona: Discussion. By John Girard. Am. Soc. of Civil engineers. Proceedings. v.66, no.7. September, 1940. p.1327-1328.

Weeds

Cost of "keeping" noxious weeds. By U. J. Norgaard. Dakota farmer. v.60, no.12. June 15, 1940. p.270-271.

Weeds (Cont'd.)

Farm enemy no. 1. By Berry H. Akers. Farmer. v.58, no.14.
July 27, 1940. p.5,10. Creeping jennie will thrive
under normal farming operations. Article tells how to
handle it.

Terms of peace in Idaho's war on weeds will be unconditional
surrender. By O. A. Fitzgerald. Idaho farmer.
v.58, no.15. p.371. July 18, 1940. Campaign against
noxious weeds is built around two methods of control-
chemicals and intensive cultivation. Among chemicals
carbon bisulphide is used extensively for small weed patches
on high-priced land.

War on weeds. By John W. Ripley. Farm journal and farmer's
wife. v.64, no. 7. p.20,22,23. July, 1940.